Remarks.

Corrections to the specification.

1. Paragraph [0003]. SN 10/709,484 issued as U. S. Pat No 6,979,982. A new paragraph [0003] includes that information.

2. Paragraph [0024] contains a typographical error, a dash "-" that is not intended. A new paragraph [0024] corrects that error.

3. Paragraph [0027], line 5, "64" should be "75". A new paragraph [0024] corrects that error.

4. Paragraph [0030] line 6 has a spelling error, "teh" should be "the". A new paragraph [0030] corrects that error.

5. Paragraph [0032] ends with two periods. A new paragraph [0032] corrects that error.

6. Paragraph [0045] line 7, a space missing before "First". A new paragraph [0045] corrects that error.

7. Paragraph [0046], line 1, "the storage can" should be "the storage capacitor can". A new paragraph [0046] corrects that error. This is not new matter, as the storage capacitor is discussed frequently throughout the specification.

8. Paragraph [0061], line 1. There is an extra blank line at the start of the paragraph. Line 15, the sentences are run together. A new paragraph [0061] corrects these errors.

9. Paragraph [0064], line 5, "and knowledge" should be "and with knowledge". A new paragraph [0064] corrects this error. This is not new matter, as it corrects only a grammatical error.

Corrections to the claims.

10. In claim 6, line 7, "and the" should be "and to the". In line 9, ""connected a" should be "connected to a".

The rejections:

In response to your paragraph 2.:

The independent claims 1 and 4 are lumped together in your rejection, whereas they claim different subject matter. Accordingly, I am discussing claims 1 and claims 4 separately. Claims 2 and 3 depend on claim 1, and claim 5 depends on claim 4. Your rejection appears to apply only to the independent claims. If the rejection of claims 1 and 4 are overcome, I believe claims 2, 3 and 5 are in condition for allowance.

In regards to the rejection of claim 1:

Figure 11 of Herbert, (6,121,761) shows a switched charge circuit, and it is not relevant to the switched current circuits of the present invention. See column 12. lines 20 and following. The switching circuit 221 is for a switched charge circuit, and may be the switches 215 of figure 10.

However, the switches 15 of figure 1 and 149, 151, 155 and 157 of figure 8 do switch current, and could be redrawn using MOSFETs, in which case they would resemble data bus driver circuit. The fact that the switches of figure 11 or the other switches of figures 1 and 8 could be drawn as data bus driver circuit does not teach the point of novelty of claim 1.

The point of novelty is in the last two lines of claim 1, "at least one of the plurality of switching means is a totem pole cell located within the integrated circuit". In a practical power converter of this invention, several or all of the switching means would be totem pole cells, but "at least one" provides the broadest claim language.

Totem pole drivers are well known in digital and analog circuit design, and invariably they are used as output circuits, either to provide a source or a sink to a load, often another integrated circuit. A variant is the familiar tri-state driver in which the third state is "off".

A totem pole driver ("totem pole cell") is never used as an input to an integrated circuit, and it would not be obvious to one skilled in the art to use a totem pole driver as an input to an integrated circuit. In particular, it would not be obvious to use a totem pole cell as an input to an integrated circuit as a component of the power converter that provides power (by storing charge on the capacitor) to the integrated circuit and controls the power to the integrated circuit by switching an input constant current either to "the capacitor" (for storing a charge) or "to return".

Nothing in '761 Herbert teaches or suggests using a totem pole cell of an integrated circuit as an input to control power to the integrated circuit, and it would not have been obvious to one skilled in the art of either power converters or integrated circuits to us a totem pole cell on an integrated circuit to control the power input to the integrated circuit.

Accordingly, I believe that claim 1 is in condition for allowance.

In regards to the rejection of claim 4:

Figure 11 of Herbert, (6,121,761) shows a switched charge circuit, and it is not relevant to the switched current circuits of the present invention. See column 12. lines 20 and following. The switching circuit 221 is for a switched charge circuit, and may be the switches 215 of figure 10.

However, the switches 15 of figure 1 and 149, 151, 155 and 157 of figure 8 do switch current, and could be redrawn using MOSFETs, in which case they would resemble data bus driver circuits. The fact that the switches of figure 11 or the other switches of figures 1 and 8 could be drawn as data bus driver circuit does not teach the point of novelty of claim 4.

The point of novelty is in line 8 and following of claim 4, "the data bus driver circuit further comprising a source of constant current located outside of the integrated circuit and connected to the data output". In a practical power converter of this invention, there would be several such data bus driver circuits, but "A data bus driver" provides the broadest claim language.

Data bus driver circuits are well known in digital circuit design, and invariably they are used as output circuits, either to provide a source or a sink to a load, often another integrated circuit. A variant is the familiar tri-state driver in which the third state is "off".

A totem pole cell ("data bus driver circuit") is never used as an input to an integrated circuit, and it would not be obvious to one skilled in the art to use a data bus driver circuit as an input to an integrated circuit. It would not be obvious to use a data bus driver circuit as an input to an integrated circuit as a component of the power converter that provides power (by storing charge on the capacitor) to the integrated circuit and controls the power to the integrated circuit by switching an input constant current either to "the capacitor" (for storing a charge) or "to return". In particular, it would not be obvious to use a data bus driver circuit as an input to an integrated circuit as a component of the power converter that provides power (by storing charge on the capacitor) to the integrated circuit and controls the power to the integrated circuit as well as being a data bus driver circuit output.

Nothing in '761 Herbert teaches or suggests using a data bus driver circuit of an integrated circuit as an input to control power to the integrated circuit, and it would not have been obvious to one skilled in the art of either power converters or integrated circuits to us a data bus driver circuit on an integrated circuit to control the power input to the integrated circuit. In particular, it would not be obvious to use a data bus driver circuit as an input to an integrated circuit as a component of the power converter that provides power (by storing charge on the capacitor) to the integrated circuit and controls the power to the integrated circuit as well as being a data bus driver circuit output.

Accordingly, I believe that claim 4 is in condition for allowance.

In regards to the rejection of claim 6:

Claims 7 through 9 depend on claim 6. I believe that if the rejection of claim 6 is overcome, claims 7 through 9 are in condition for allowance.

The discussion regarding the rejection of claims 4 apply to claim 6 as well. Reference is made to that discussion rather than repeating it here.

Claim 6 claims " --- a ballast block for dividing current from a constant current source into a plurality of smaller constant currents --- ". The ballast block comprises "a plurality of inductor means, --- "

'359 Work, et al, contains (claim 1) " --- a ballast within said shell body for energizing said discharge device to emit light, --- ". More particularly, (claim 14) " --- said ballast operates said discharge device with a fundamental power frequency and with harmonies which are integer multiples of the fundamental power frequency, said fundamental power frequency being greater than about 38 kHz and lower than the lowest lamp resonant power frequency, and said harmonics above said lowest lamp resonant frequency having amplitudes which are insufficient to induce acoustic resonances."

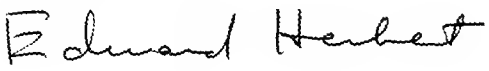
"Ballasts" are commonly used with devices such as electrical discharge lamps and arc welders to stabilize the current through the lamp or the arc. A very common form of a ballast is the familiar ballast for a fluorescent lamp. These are widely available commercially and can be purchased from any local hardware store, electrical supply store or lighting center. Some ballasts are designed for multiple lamps, two or four being quite common, and such ballasts may provide multiple outputs from a single source for energizing several such discharge devices to emit light,. To the best of my knowledge and belief, none of them operate from a constant current source. The input power source is ac commercial power.

Work does not teach nor suggest using a ballast block comprising a plurality of inductor means for dividing a constant current into a plurality of smaller constant currents. The ballast of Work does not operate from a constant current and could not operate from a constant current, given the resonant properties claimed in claim 14 of Work. The ballast of Work does not contain a plurality of inductors. Some commercial fluorescent lamp ballasts may contain a plurality of inductors as components, but their nature, construction, and purpose are so different from the nature, construction and purpose of the present invention that Work would neither teach nor suggest the ballast block of the present to one skilled in the art of power converters at the time that the present invention was made.

Further, the ballast of Work, and other known electrical ballasts at the time that the invention was made do not provide currents to a plurality of totem pole data drivers. Not only would they be totally unsuitable for that function, for all of the reasons stated above in reference to my claim 4, it would not be obvious or even remotely suggested to use the ballast of Work or any other known electrical ballast to provide a smaller constant current to a totem pole data driver.

Accordingly, I believe that Work, et al, does not teach nor suggest the present invention. I am not aware of any prior art that anticipates claim 6, and I believe that claim 6 is in condition for allowance.

Respectfully yours,



Edward Herbert
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